# *LANDSCAPE DESIGN AND MANAGEMENT STANDARDS*

This document was prepared by:

Office of Career, Technical and Adult Education
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Adopted by the State Board of Education /
State Board for Career and Technical Education on
December 14, 2012

***CTE MISSION STATEMENT:***

The Office of Career, Technical and Adult Education is dedicated to developing innovative educational opportunities for students to acquire skills for productive employment and lifelong learning.



# TABLE OF CONTENTS

## ACKNOWLEDGEMENTS

The development of the Nevada career and technical standards project was a collaborative effort sponsored by the Office of Career, Technical and Adult Education at the Department of Education and the Career and Technical Education Consortium of States. The Department of Education must rely on teachers and industry representatives who have the technical expertise and teaching experience to develop standards and performance indicators that truly measure student skill attainment. Most important, however, is recognition of the time, expertise and great diligence provided by the writing team members in developing the career and technical standards for Landscape Design and Management.

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## BUSINESS AND INDUSTRY VALIDATION

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives; or (2) a separate review panel was coordinated with industry experts to ensure the standards include the proper content; or (3) the adoption of nationally-recognized standards endorsed by business and industry.

The Landscape Design and Management Standards were validated through active participation of business and industry representatives on the development team and validated through a complete review by an industry panel.

## PROJECT COORDINATOR

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# AGRICULTURE AND NATURAL RESOURCES
## Program Requirements

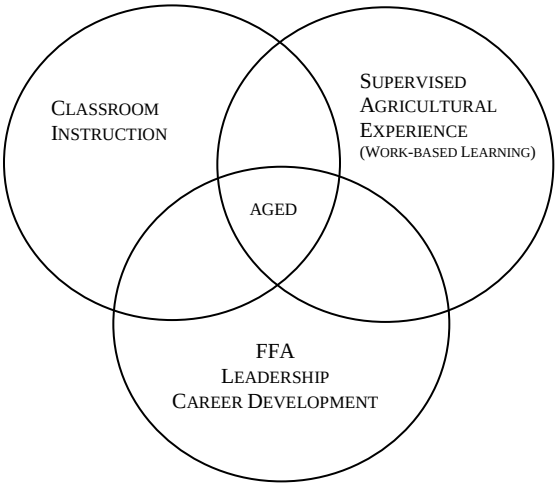
Occupations associated with agriculture production, natural resources, processing and distribution of food and fiber are important to the national interests and provide significant employment opportunities. Occupational education and training in agriculture and agri-business are essential to the continued economic health of Nevada and the nation, as it provides the needed competent and trained work force.

Agriculture education provides high school students with technical and specialized knowledge in production agriculture and natural resources as well as other specific agriculture occupations. The programs are designed to meet students' occupational objectives, interests, and abilities for entry into chosen occupations and can prepare them for advanced education and training. Agriculture education is a coordinated program of group and individual instructional activities consisting of classroom instruction, laboratory experiences, and leadership development. Integral to these activities are FFA (leadership development) and Supervised Agricultural Experience (work-based learning), Nevada Revised Statute 385.110. Federal/Public law#105-225 which was passed in August, 1998, states "Congress of the United States recognizes the importance of the FFA as an integral part of the program of Vocational Agriculture." All students enrolled in Agriculture Education will be recognized as members of the FFA organization. All secondary agriculture education programs and school districts will purchase a curriculum packet consisting of the New Horizons agriculture career and technical magazine, the FFA manual, and the Nevada Record Book on a yearly basis for every student enrolled in agriculture education in their program. Areas of study at the secondary level are divided into Agriculture Science and Specialized Advanced Agriculture Career and Technical Areas.

Agriculture and Society, Plant and Soil Science, Agriculture Mechanical Engineering and Technology, Animal Science, Leadership/FFA, Agriculture Business, Sales, Marketing and Supervised Agriculture Experience, Natural Resources, and Employability are included in the Agriculture Science introduction division.

Instruction in business/specialized agriculture provides training in specific occupational skills, duties, and tasks, as determined by the business and industry needs. Specialized career and technical agriculture programs will include, but are not limited to, the following: ornamental horticulture, floriculture design, turf and landscape management, equine science and technology, forestry technology, wildlife management and enforcement, food science and processing, feedlot management, animal science, veterinary science, agriculture power systems, natural resources and reclamation, mining science and operations, nursery and greenhouse management, landscape architecture, irrigation and chemical management, lawn care and maintenance, and agriculture construction

**NEVADA**
**AGRICULTURE EDUCATION**
Model of Instruction



## INTRODUCTION

The standards in this document are designed to clearly state what the student should know and be able to do upon completion of an advanced high school program for Landscape Design and Management. These standards are designed for a three-credit course sequence that prepares the student for a technical assessment directly aligned to the standards.

These exit-level standards are designed for the student to complete all standards through their completion of a program of study. These standards are intended to guide curriculum objectives for a program of study.

The standards are organized as follows:

**Content Standards** are general statements that identify major areas of knowledge, understanding, and the skills students are expected to learn in key subject and career areas by the end of the program.

**Performance Standards** follow each content standard. Performance standards identify the more specific components of each content standard and define the expected abilities of students within each content standard.

**Performance Indicators** are very specific criteria statements for determining whether a student meets the performance standard. Performance indicators may also be used as learning outcomes, which teachers can identify as they plan their program learning objectives.

The crosswalk and alignment section of the document shows where the performance indicators support the English Language Arts and the Mathematics Common Core State Standards, and the Nevada State Science Standards. Where correlation with an academic standard exists, students in the Landscape Design and Management program perform learning activities that support, either directly or indirectly, achievement of one or more Common Core State Standards.

All students are encouraged to participate in the career and technical student organization (CTSO) that relates to their program area. CTSOs are co-curricular national associations that directly enforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. CTSOs provide students the ability to apply academic and technical knowledge, develop communication and teamwork skills, and cultivate leadership skills to ensure college and career readiness.

The Employability Skills for Career Readiness identify the “soft skills” needed to be successful in all careers, and must be taught as an integrated component of all CTE course sequences. These standards are available in a separate document.

| CONTENT STANDARD 1.0 : SAFETY IN THE LANDSCAPE INDUSTRY | |
|---|---|
| **PERFORMANCE STANDARD 1.1 : PROPERLY PERFORM SAFE WORK PRACTICES** | |
| 1.1.1 | Identify and properly use personal protection equipment (PPE) |
| 1.1.2 | Read, understand and follow label instructions and MSDS |
| 1.1.3 | Properly identify common hand tools and power equipment |
| 1.1.4 | Safely use common hand tools and power equipment |
| 1.1.5 | Complete worker protection handler verification card training |

| CONTENT STANDARD 2.0 : LANDSCAPE PLANT IDENTIFICATION | |
|---|---|
| **PERFORMANCE STANDARD 2.1 : CATEGORIZE LANDSCAPE PLANTS BY USE** | |
| 2.1.1 | Correctly categorize landscape plants by life cycle (i.e., annuals, perennials, trees, groundcovers) |
| 2.1.2 | Correctly categorize landscape plants by growth habits |
| 2.1.3 | Utilize resources to establish plant suitability for a selected site (i.e., Hardiness Zone Maps, Heat Zone Maps) |
| 2.1.4 | Identify common landscape plants by botanical and common names |

| CONTENT STANDARD 3.0 : DESIGNING THE LANDSCAPE AREAS | |
|---|---|
| **PERFORMANCE STANDARD 3.1 : EXPLORE THE OUTDOOR ROOM CONCEPT** | |
| 3.1.1 | Distinguish the major areas of a residential landscape |
| 3.1.2 | Assess design guidelines for the public space |
| 3.1.3 | Explain aspects of outdoor living spaces |
| 3.1.4 | Describe the functions of a service area |
| **PERFORMANCE STANDARD 3.2 : COMPILE INFORMATION IN PREPARATION FOR LANDSCAPE DESIGN WORK** | |
| 3.2.1 | Determine the client's need and desires |
| 3.2.2 | Analyze the site conditions |
| 3.2.3 | Prepare a site analysis plan |
| **PERFORMANCE STANDARD 3.3 : APPLY BASIC DRAFTING TECHNIQUES TO A LANDSCAPE DESIGN** | |
| 3.3.1 | Differentiate between architect and engineer scales |
| 3.3.2 | Identify drafting equipment, and demonstrate its proper use |
| **PERFORMANCE STANDARD 3.4 : CREATE A BUBBLE DIAGRAM** | |
| 3.4.1 | Recognize and use common symbols in a bubble diagram |
| 3.4.2 | Identify use areas with a bubble diagram |
| 3.4.3 | Identify traffic patterns with a bubble diagram |
| 3.4.5 | Identify hydrozones with a bubble diagram |
| **PERFORMANCE STANDARD 3.5 : CREATE INDUSTRY STANDARD PLAN DRAWING** | |
| 3.5.1 | Create a base plan to scale |
| 3.5.2 | Apply the principles and elements of design to a landscape plan |
| 3.5.3 | Select and place appropriate plant materials for the landscape plan |
| 3.5.4 | Select and place appropriate hardscape materials for the landscape plan |
| 3.5.5 | Create plant legends (schedules) from a design |
| 3.5.6 | Create irrigation legends (schedules) from a design |

| CONTENT STANDARD 4.0 : APPLY THE PRINCIPLES AND ELEMENTS OF DESIGN | |
|---|---|
| **PERFORMANCE STANDARD 4.1 : EXPLORE PRINCIPLES OF DESIGN** | |
| 4.1.1 | Compare and contrast balance using symmetry, asymmetry, and massing |
| 4.1.2 | Select appropriate sites for emphasis in the landscape |
| 4.1.3 | Determine appropriate proportion and scale in a design |
| 4.1.4 | Illustrate how lines establish rhythm in a design |
| 4.1.5 | Discuss the relationship of color to emotions/symbolism |
| 4.1.6 | Use color, texture, and form to create a desired atmosphere |
| 4.1.7 | Critique unity of the landscape design |

| CONTENT STANDARD 5.0 : SELECT PLANT MATERIALS FOR THE LANDSCAPE | |
|---|---|
| **PERFORMANCE STANDARD 5.1 : IDENTIFY ENVIRONMENTAL FACTORS THAT DETERMINE SELECTION** | |
| 5.1.1 | Analyze soil characteristics that influence plant selection |
| 5.1.2 | Analyze climate characteristics that influence plant selection |
| 5.1.3 | Analyze water use requirements that influence plant selection |
| **PERFORMANCE STANDARD 5.2 : IDENTIFY GROWTH CHARACTERISTICS THAT INFLUENCE PLANT SELECTION** | |
| 5.2.1 | Classify plants by mature size |
| 5.2.2 | Classify plants by form (i.e., weeping, columnar, spreading) |
| 5.2.3 | Classify plants by color |
| 5.2.4 | Classify plants by texture |
| 5.2.5 | Distinguish between deciduous and evergreen plants |
| **PERFORMANCE STANDARD 5.3 : IDENTIFY PLANTS BY THEIR FUNCTION IN THE LANDSCAPE** | |
| 5.3.1 | Categorize trees by function (i.e., shade, accent, fruit, windbreak) |
| 5.3.2 | Categorize shrubs by function (i.e., specimen, border, accent, foundation) |
| 5.3.3 | Categorize herbaceous plants by function (i.e., borders, accent, color beds, containers) |
| 5.3.4 | Categorize grasses by function (i.e., accent, ornamental, turf) |
| **PERFORMANCE STANDARD 5.4 : EVALUATE NURSERY STOCK QUALITY** | |
| 5.4.1 | Recognize healthy plant characteristics |
| 5.4.2 | Distinguish between healthy versus defective roots |
| 5.4.3 | Evaluate nursery stock according to American Association of Nurserymen standards |

| CONTENT STANDARD 6.0 : EXPLORE HARDSCAPES IN LANDSCAPE PLANNING | |
|---|---|
| **PERFORMANCE STANDARD 6.1 : SELECT HARDSCAPE MATERIALS** | |
| 6.1.1 | Define hardscape |
| 6.1.2 | List components in a hardscape design (i.e., patios, water features, walkways, shade structures) |
| 6.1.3 | Compare and contrast wall types used in the landscape (i.e., retaining, seat, decorative) |
| 6.1.4 | Compare and contrast materials used in hardscapes |
| **PERFORMANCE STANDARD 6.2 : EXAMINE HARDSCAPE CONSTRUCTION TECHNIQUES** | |
| 6.2.1 | Compare and contrast walkway construction materials and methods (i.e., concrete, pavers, stone) |
| 6.2.2 | Compare and contrast wall construction materials and methods (i.e., poured in place, cinderblock, segmental retaining wall) |
| 6.2.3 | Compare and contrast fence construction materials and methods (i.e., wood, vinyl, metal) |
| 6.2.4 | Compare and contrast deck construction materials and methods (i.e., wood, composite, concrete) |

| CONTENT STANDARD 7.0 : EXPLORE IRRIGATION SYSTEMS | |
|---|---|
| **PERFORMANCE STANDARD 7.1 : PREPARE FOR INSTALLATION OF IRRIGATION SYSTEM** | |
| 7.1.1 | Analyze site conditions |
| 7.1.2 | Calculate area coverage dimensions |
| 7.1.3 | Establish design capacity of the site (flow rate in gallons per minute and pressure in pounds per square inch) |
| 7.1.4 | Identify components of drip and sprinkler irrigation systems (i.e., pipes, fittings, valves) |
| **PERFORMANCE STANDARD 7.2 : DESIGN A TURF SPRINKLER SYSTEM** | |
| 7.2.1 | Recognize common symbols and detail drawings used in an irrigation design |
| 7.2.2 | Establish sprinkler pattern and spacing |
| 7.2.3 | Calculate number of sprinkler heads, valves, and drains and the length of pipe needed |
| 7.2.4 | Calculate the cost of the parts, supplies, and labor for system installation |
| 7.2.5 | Select appropriate controller for system |
| **PERFORMANCE STANDARD 7.3 : DESIGN A DRIP SYSTEM** | |
| 7.3.1 | Recognize common symbols and detail drawings used in a drip system |
| 7.3.2 | Establish emitter pattern and spacing |
| 7.3.3 | Calculate number of emitters, valves, drains and the length of pipe and tubing needed |
| 7.3.4 | Calculate the cost of the parts, supplies, and labor for system installation |
| 7.3.5 | Select appropriate controller for system |
| **PERFORMANCE STANDARD 7.4 : MAINTAIN AN IRRIGATION SYSTEM** | |
| 7.4.1 | Explain how leaks impact system performance |
| 7.4.2 | Identify symptoms from leaks or broken components |
| 7.4.3 | List the procedure for repairing broken heads |
| 7.4.4 | List the procedure for replacing heads |
| 7.4.5 | Determine the correct procedure for adjusting the height and spray of sprinklers |
| 7.4.6 | Determine the potential causes of faulty valves |

| CONTENT STANDARD 8.0 : INSTALL A LANDSCAPE AREA BASED ON A LANDSCAPE DESIGN | |
|---|---|
| **PERFORMANCE STANDARD 8.1 : PREPARE A LANDSCAPE SITE** | |
| 8.1.1 | Prepare landscape site to establish grade |
| 8.1.2 | Locate utilities |
| 8.1.3 | Perform soil remediation techniques |
| 8.1.4 | Install irrigation system |
| **PERFORMANCE STANDARD 8.2 : INSTALL PLANTS** | |
| 8.2.1 | Calculate landscape measurements |
| 8.2.2 | Layout plant placement per design |
| 8.2.3 | Prepare planting holes using best management practices of the landscape industry |
| 8.2.4 | Plant seeds, bulbs, ground covers, annuals, perennials, and/or woody plants according to best management practices of the landscape industry |
| 8.2.5 | Provide post-planting care, such as appropriate watering, bracing, and mulching |
| **PERFORMANCE STANDARD 8.3 : PREPARE A COST ESTIMATE FOR A LANDSCAPE PLAN** | |
| 8.3.1 | Differentiate between an estimate and a bid |
| 8.3.2 | Calculate the amount of time required to complete a job |
| 8.3.3 | Define overhead costs |
| 8.3.4 | Prepare a final bid for the landscape design and installation project |

| CONTENT STANDARD 9.0 : EXPLORE TURFGRASS INSTALLATION AND MAINTENANCE PRACTICES | |
|---|---|
| **PERFORMANCE STANDARD 9.1 : SELECTION OF TURFGRASSES** | |
| 9.1.1 | Select grasses according to potential use and environment |
| 9.1.2 | Distinguish between warm and cool season grass species |
| 9.1.3 | Distinguish between bunch and spreading grasses |
| 9.1.4 | Interpret a seed label |
| 9.1.5 | Research local turf restrictions |
| **PERFORMANCE STANDARD 9.2 : EXAMINING METHODS OF TURFGRASS ESTABLISHMENT** | |
| 9.2.1 | Compare and contrast methods of establishment (i.e., seed, sod, plugging, sprigging) |
| 9.2.2 | Compare and contrast equipment used for establishment |
| **PERFORMANCE STANDARD 9.3 : MANAGING TURFGRASS** | |
| 9.3.1 | Summarize turfgrass irrigation practices |
| 9.3.2 | Select appropriate turfgrass fertilizer |
| 9.3.3 | Compare and contrast the use of reel and rotary mowers |
| 9.3.4 | Justify the need for thatch control and core cultivation (aeration) |
| 9.3.5 | Demonstrate proper mowing practices |
| 9.3.6 | Describe turfgrass pest control strategies associated with IPM |

| CONTENT STANDARD 10.0 : TREE AND SHRUB MANAGEMENT PRACTICES | |
|---|---|
| **PERFORMANCE STANDARD 10.1 : EXPLORE PRUNING PRACTICES** | |
| 10.1.1 | Identify tools used for pruning trees and shrubs |
| 10.1.2 | Demonstrate industry standard practices for pruning trees and shrubs |
| **PERFORMANCE STANDARD 10.2 : EXPLORE MULCHING** | |
| 10.2.1 | Compare and contrast organic and inorganic mulches |
| 10.2.2 | Summarize the benefits of mulching |
| 10.2.3 | Calculate volume of mulch required for a site |
| **PERFORMANCE STANDARD 10.3 : MANAGING TREES AND SHRUBS** | |
| 10.3.1 | Select appropriate fertilizers and application methods |
| 10.3.2 | Summarize irrigation practices |
| 10.3.3 | Describe pest control strategies associated with IPM |

| CONTENT STANDARD 11.0 : INTEGRATED PEST MANAGEMENT (IPM) | |
|---|---|
| **PERFORMANCE STANDARD 11.1 : DESCRIBE INTEGRATED PEST MANAGEMENT** | |
| 11.1.1 | Define Integrated Pest Management (IPM) |
| 11.1.2 | Summarize the benefits of IPM |
| **PERFORMANCE STANDARD 11.2 : EXPLORE COMMON PESTS AND DISEASES** | |
| 11.2.1 | Summarize the etiology, clinical signs, treatment, and prevention of common plant diseases |
| 11.2.2 | Identify weed, insect, and rodent pests |
| 11.2.3 | Differentiate between infectious and noninfectious diseases |
| **PERFORMANCE STANDARD 11.3 : EXPLAIN PROCEDURES FOR THE SAFE HANDLING , USE AND STORAGE OF PESTICIDES** | |
| 11.3.1 | Identify and utilize appropriate safety measures when applying pesticides |
| 11.3.2 | Interpret pesticide labels |
| 11.3.3 | Explain procedures for storing and disposing of pesticides |
| 11.3.4 | Evaluate environmental and consumer concerns regarding pest management |
| 11.3.5 | Mix pesticides according to label directions |
| **PERFORMANCE STANDARD 11.4 : EXPLORE PESTICIDE CERTIFICATIONS** | |
| 11.4.1 | Explore requirements for obtaining pesticide applicator licenses |

| CONTENT STANDARD 12.0 : EXPLORE CAREER OPPORTUNITIES IN THE LANDSCAPING INDUSTRY | |
|---|---|
| **PERFORMANCE STANDARD 12.1 : UNDERSTAND EMPLOYMENT FIELDS IN THE LANDSCAPING INDUSTRY** | |
| 12.1.1 | List and describe the types of employment opportunities in the landscaping industry |
| 12.1.2 | Explore education and training for different landscaping careers |
| 12.1.3 | Understand the process of choosing a career path in the landscaping industry |
| 12.1.4 | Research additional industry certifications available (PLANET, Irrigation Association, etc.) |

| CONTENT STANDARD 13.0 : PARTICIPATE IN LEADERSHIP TRAINING THROUGH MEMBERSHIP IN FFA | |
|---|---|
| **PERFORMANCE STANDARD 13.1 : RECOGNIZE THE TRAITS OF EFFECTIVE LEADERS AND PARTICIPATE IN LEADERSHIP TRAINING THROUGH INVOLVEMENT IN FFA** | |
| 13.1.1 | Expand leadership experience by serving as a chapter officer or on a committee |
| 13.1.2 | Exhibit leadership skills by demonstrating proper parliamentary procedure |
| 13.1.3 | Participate in a career skill development event at least at the local level |
| **PERFORMANCE STANDARD 13.2 : UNDERSTAND THE IMPORTANCE OF SCHOOL AND COMMUNITY AWARENESS** | |
| 13.2.1 | Participate in a school improvement or community development project |

| CONTENT STANDARD 14.0 : DESCRIBE THE RELATIONSHIP BETWEEN A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) AND PREPARATION OF STUDENTS FOR A CAREER IN AGRICULTURE | |
|---|---|
| **PERFORMANCE STANDARD 14.1 : MAINTAIN A SUPERVISED AGRICULTURAL EXPERIENCE** | |
| 14.1.1 | Accurately maintain SAE record books |
| 14.1.2 | Apply for proficiency award related to SAE program area |
| 14.1.3 | Actively pursue necessary steps to receive higher degrees in FFA |

# CROSSWALKS AND ALIGNMENTS OF LANDSCAPE DESIGN AND MANAGEMENT STANDARDS AND THE COMMON CORE STATE STANDARDS, THE NEVADA SCIENCE STANDARDS, AND THE COMMON CAREER TECHNICAL CORE STANDARDS

## CROSSWALK (ACADEMIC STANDARDS)

The crosswalk of the Landscape Design and Management Standards shows links to the Common Core State Standards for English Language Arts and Mathematics and the Nevada Science Standards. The crosswalk identifies the performance indicators in which the learning objectives in the Landscape Design and Management program support academic learning. The performance indicators are grouped according to their content standard and are crosswalked to the English Language Arts and Mathematics Common Core State Standards and the Nevada Science Standards.

## ALIGNMENTS (MATHEMATICAL PRACTICES)

In addition to correlation with the Common Core Mathematics Content Standards, many performance indicators support the Common Core Mathematical Practices. The following table illustrates the alignment of the Landscape Design and Management Standards Performance Indicators and the Common Core Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the Landscape Design and Management program support academic learning.

## CROSSWALK (COMMON CAREER TECHNICAL CORE)

The crosswalk of the Landscape Design and Management Standards shows links to the Common Career Technical Core. The crosswalk identifies the performance indicators in which the learning objectives in the Landscape Design and Management program support the Common Career Technical Core. The Common Career Technical Core defines what students should know and be able to do after completing instruction in a program of study. The Landscape Design and Management Standards are crosswalked to the Agriculture, Food & Natural Resources Career Cluster™ and the Plant Systems Career Pathways.

# CROSSWALK OF LANDSCAPE DESIGN AND MANAGEMENT STANDARDS AND THE COMMON CORE STATE STANDARDS

## CONTENT STANDARD 1.0: SAFETY IN THE LANDSCAPE INDUSTRY

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 1.1.1 | **Science: Nature of Science**<br>N.12.A.4 Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. |
| 1.1.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**Science: Nature of Science**<br>N.12.A.4 Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. |

## CONTENT STANDARD 2.0: LANDSCAPE PLANT IDENTIFICATION

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 2.1.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 2.1.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 2.1.3 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>**Science: Life Science**<br>L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions. |
| 2.1.4 | **English Language Arts: Language Standards**<br>L.11-12.2b Spell correctly.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |

## CONTENT STANDARD 3.0: DESIGNING THE LANDSCAPE AREAS

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 3.1.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved. |
| 3.1.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 3.1.3 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| 3.1.4 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.2d Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. |
| 3.2.1 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. |
| 3.2.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.<br>**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 3.2.3 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. |

## CONTENT STANDARD 4.0: APPLY THE PRINCIPLES AND ELEMENTS OF DESIGN

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 4.1.1 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| 4.1.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 4.1.6 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. |
| 4.1.7 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.1c Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.<br>SL.11-12.1d Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. |

## CONTENT STANDARD 5.0: SELECT PLANT MATERIALS FOR THE LANDSCAPE

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 5.1.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| 5.1.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| 5.1.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| 5.2.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| 5.2.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| 5.2.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. |
| 5.2.4 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 5.3.1 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 5.3.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 5.3.4 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |

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| 5.4.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.<br>**Science: Life Science**<br>L.12.B.3 Students know disease disrupts the equilibrium that exists in a healthy organism. |
| 5.4.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.<br>**Science: Life Science**<br>L.12.B.3 Students know disease disrupts the equilibrium that exists in a healthy organism. |
| 5.4.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |

## CONTENT STANDARD 6.0: EXPLORE HARDSCAPES IN LANDSCAPE PLANNING

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 6.1.3 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.. |
| 6.1.4 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.. |
| 6.2.1 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.. |
| 6.2.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.. |
| 6.2.3 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>**English Language Arts: Speaking and Listening Standards**<br>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. |

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| 6.2.4 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.<br>**English Language Arts: Speaking and Listening Standards**<br>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.<br>**English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. |

## CONTENT STANDARD 7.0: EXPLORE IRRIGATION SYSTEMS

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 7.1.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| 7.2.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |
| 7.2.5 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 7.3.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. |
| 7.3.5 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 7.4.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 7.4.5 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 7.4.6 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |

## CONTENT STANDARD 8.0: INSTALL A LANDSCAPE AREA BASED ON A LANDSCAPE DESIGN

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 8.1.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 8.2.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 8.2.4 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 8.2.5 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |

## CONTENT STANDARD 9.0: EXPLORE TURFGRASS INSTALLATION AND MAINTENANCE PRACTICES

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 9.1.1 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 9.1.5 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation |
| 9.2.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 9.2.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |
| 9.3.1 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| 9.3.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. |
| 9.3.4 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. |
| 9.3.5 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |

## CONTENT STANDARD 10.0: TREE AND SHRUB MANAGEMENT PRACTICES

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 10.1.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 10.2.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**Science: Earth and Space**<br>E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and non-renewable resources. |
| 10.2.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**Science: Earth and Space**<br>E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and non-renewable resources. |
| 10.3.1 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.. |
| 10.3.2 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Speaking and Listening Standards**<br>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. |
| 10.3.3 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |

## CONTENT STANDARD 11.0: INTEGRATED PEST MANAGEMENT (IPM)

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 11.1.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| 11.2.1 | **Science: Life Science**<br>L.12.B.3 Students know disease disrupts the equilibrium that exists in a healthy organism. |
| 11.2.3 | **Science: Life Science**<br>L.12.B.3 Students know disease disrupts the equilibrium that exists in a healthy organism. |
| 11.3.3 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 11.3.4 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.<br>**English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. |
| 11.3.5 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. |
| 11.4.2 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well reasoned exchange of ideas. |

## CONTENT STANDARD 12.0: EXPLORE CAREER OPPORTUNITIES IN THE LANDSCAPING INDUSTRY

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 12.1.1 | **English Language Arts: Reading Standards for Literacy in Science and Technical Subjects**<br>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. |

## CONTENT STANDARD 13.0: PARTICIPATE IN LEADERSHIP TRAINING THROUGH MEMBERSHIP IN FFA

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 13.1.1 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. |
| 13.1.2 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. |
| 13.2.1 | **English Language Arts: Speaking and Listening Standards**<br>SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. |

## CONTENT STANDARD 14.0: DESCRIBE THE RELATIONSHIP BETWEEN A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) AND PREPARATION OF STUDENTS FOR A CAREER IN AGRICULTURE

| Performance Indicators | Common Core State Standards and Nevada Science Standards |
|---|---|
| 14.1.1 | **English Language Arts: Language Standards**<br>L.11-12.2b Spell correctly. |
| 14.1.2 | **English Language Arts: Writing Standards for Literacy in Science and Technical Subjects**<br>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |

## ALIGNMENT OF LANDSCAPE DESIGN AND MANAGEMENT STANDARDS AND THE COMMON CORE MATHEMATICAL PRACTICES

| Common Core Mathematical Practices | Landscape Design Performance Indicators |
|---|---|
| 1. Make sense of problems and persevere in solving them. | 4.1.3 |
| 2. Reason abstractly and quantitatively. | 5.1.1, 5.1.2, 5.1.3 |
| 3. Construct viable arguments and critique the reasoning of others. | 4.1.6 |
| 4. Model with mathematics. | 7.1.2, 7.1.3, 7.2.3, 7.3.3, 7.3.4, 8.3.2, 10.2.3, 11.3.5 |
| 5. Use appropriate tools strategically. | 2.1.3, 3.2.2, 5.5.5, 7.1.3, 7.2.2, 7.3.2, 8.1.4, 11.3.5 |
| 6. Attend to precision. | 1.1.2, 3.2.3, 7.1.3, 7.2.4, 7.3.3, 7.3.4, 8.1.4, 11.3.5 |
| 7. Look for and make use of structure. | 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.3.1, 5.3.2, 5.3.3, 10.2.3 |
| 8. Look for and express regularity in repeated reasoning. | |

## CROSSWALKS OF LANDSCAPE DESIGN AND MANAGEMENT STANDARDS AND THE COMMON CAREER TECHNICAL CORE

| Agriculture, Food & Natural Resources Career Cluster™ (AG) | Performance Indicators |
|---|---|
| 1. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster™. | 3.4.5<br>9.2.1, 9.2.2; 9.3.3 |
| 2. Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster™ and the role of agriculture, food and natural resources (AFNR) in society and the economy. | 13.2.1 |
| 3. Examine and summarize the importance of health, safety and environmental management systems in AFNR businesses. | 1.1.1, 1.1.2, 1.1.5; 7.4.1<br>10.3.3; 11.1.1<br>11.3.1-11.3.3, 11.3.5 |
| 4. Demonstrate stewardship of natural resources in AFNR activities. | 5.1.1-5.1.3; 8.1.3<br>11.1.2, 11.3.4 |
| 5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways. | 10.1.2; 12.1.1-12.1.3<br>14.1.1-14.1.3 |
| 6. Analyze the interaction among AFNR systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources. | |

| Plant Systems Career Pathway (AG-PL) | Performance Indicators |
|---|---|
| 1. Develop and implement a crop management plan for a given production goal that accounts for environmental factors. | 9.2.1, 9.3.1-9.3.6<br>10.3.1-10.3.3 |
| 2. Apply the principles of classification, plant anatomy and plant physiology to plant production and management. | 2.1.1-2.1.3, 2.1.5<br>5.1.1-5.1.3, 5.2.1-5.2.5<br>5.3.1-5.3.4 |
| 3. Propagate, culture and harvest plants and plant products based on current industry standards. | 5.4.1-5.4.3 |
| 4. Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape and farm). | 3.1.1-3.1.4, 3.2.1-3.2.3<br>3.4.1-3.4.3, 3.4.5<br>4.1.1-4.1.6; 7.3.2, 7.4.1<br>8.2.1-8.2.5 |